Masflo

Centrifugal Multi Stage Pumps

www.masflo.fr

TECHNICAL DETAILS :

• Masflo KAT series pumps are medium and high pressure, multi stage pumps with closed type impellers and diffusers suitable for pumping clean water and slight solids content water with low viscocity.

• Masflo KAT series pumps have closed type impellers with curved vanes (FRANCIS type) which generates high manometric head.

• Pump impellers are statically and dynamically balanced according to ISO 1940 class 6.3, allowing vibration free and long life operation.

• As standard suction flange is located on the right hand side on drive end discharge flange is located on top on non drive end. Upon request different flange locations are available.

• The bearings housings of Masflo KAT series pumps are designed to support maximum number of stages reliably. Stages which are consisting of impellers and diffusors are designed for lowest loss and highest efficiency.

• **Direction of rotation** : Clockwise as seen from drive end.

• In order to reduce leakage loss renewable wear rings are fitted to the impellers.

• Axial thrust which is an important concern for multi stage pumps, is balanced by means of a balance disc.

• Pump shafts are supported by heavy duty type bearings on both sides. As standard, bearings are grease lubricated. Oil lubritaion is available on request, if needed oil lubricated bearing housings can be fitted with heat dissipation fins for additional cooling.

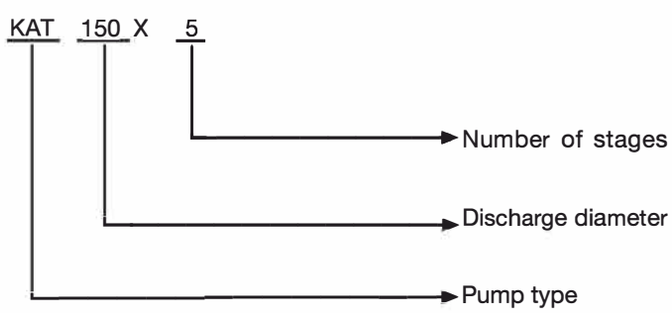
• KAT series pumps are manufactured with soft packing as a standard. Soft packing is located on shaft sleeves which are made of hardened stainless steel.

• Mechanical seal is available optionally.

BALANCE DISC: Axial thrust force is a very important issue for multi stage pumps. Axial thrust force is compensated by a balance disc. The balance disc is located inside a chamber which is between bearing housing and the last stage impeller. Surface of the balance disc is coated with special hardened steel, stationary piece is coated with hard Chromium. Both faces are machined.

FIELDS OF APPLICATIONS

Masflo - KAT series pumps are suitable for
• Public and industrial water supply
• Booster systems
• Boiler feeds
• Fire fighting units
• Marine industries
• Mining industries
• Sprinkler systems
• Chemical and Petrochemical plants
• Power plants
• Irrigation



TECHNICAL INFORMATION

- Discharge flange sizes : DN 50 – DN 200
- Operating temperature : -10°C + 110°C
- Ambient temperature : 40°C
- Casing pressure : Max. 30 Bar (**)
- Discharge pressure : Max. 300 m (**)
- Speed : Max. 3600 rpm

**** (Depending on pump model)**

Suction flanges : ISO 7005 – 2/PN 10
* Discharge flanges : ISO 7005 – 2/PN 16 – 25 upto 40

- Upon operation conditions suitable flange norm can be used.

PARTS	MATERIALS	
	BRONZ VERSION	CAST IRON VERSION
Casing	Cast iron (GJL 250) (EN-JL 1040)	Cast iron (GJL 250) (EN-JL 1040)
Impeller	Bronze	Cast iron (GJL 250) (EN-JL 1040)
Diffusor	Cast iron (GJL 250) (EN-JL 1040)	Cast iron (GJL 250) (EN-JL 1040)
Wear ring	Bronze	Cast iron (GJL 250) (EN-JL 1040)
Shaft	Stainless steel (AISI 420) (1.4021)	Stainless steel (AISI 420) (1.4021)
Shaft sleeve	Stainless steel (AISI 420) (1.4021)	Stainless steel (AISI 420) (1.4021)
Balance disc	Hardened steel filling + Chromium plated	Hardened steel filling + Chromium plated
Shaft sealing	Soft packing / Mechanical Seal	Soft packing/ Mechanical Seal
Painting	RAL 5010	RAL 5010

- Upon request diffe rent materials suitable for pumped fluids properties available

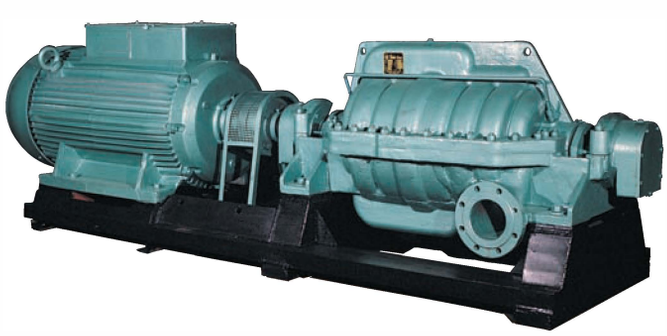
ADDITION TO CLASSIC MULTI STAGE DESIGN MASFLO HAS TWO OTHER MULTI STAGE PUMP DESIGNS

1) KAT SERIES MULTI STAGE SPLIT CASE PUMPS

This series has been developed for heavy industry applications.

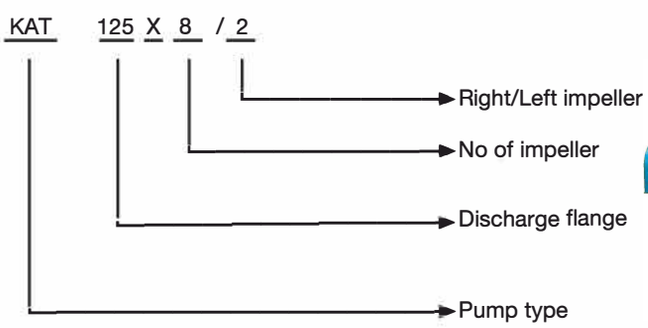
Equal number of impellers with counter rotation directions used. By this design axial load generated within pump, get balanced without need for balance disc or impeller balance holes.

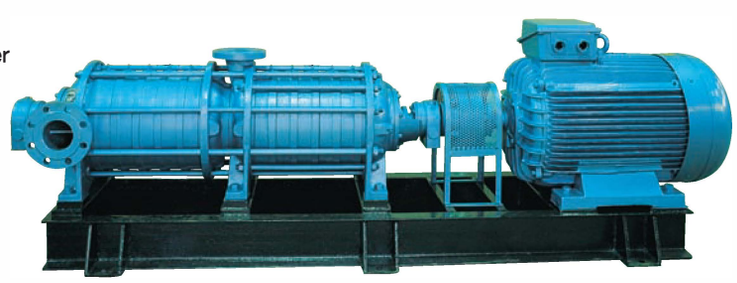
Split casing design allows pump to be splitted axially. This allows rotating elements of the pump to be dismantled or fixed without disturbing suction and discharge flange connections, by just opening the casing cover.

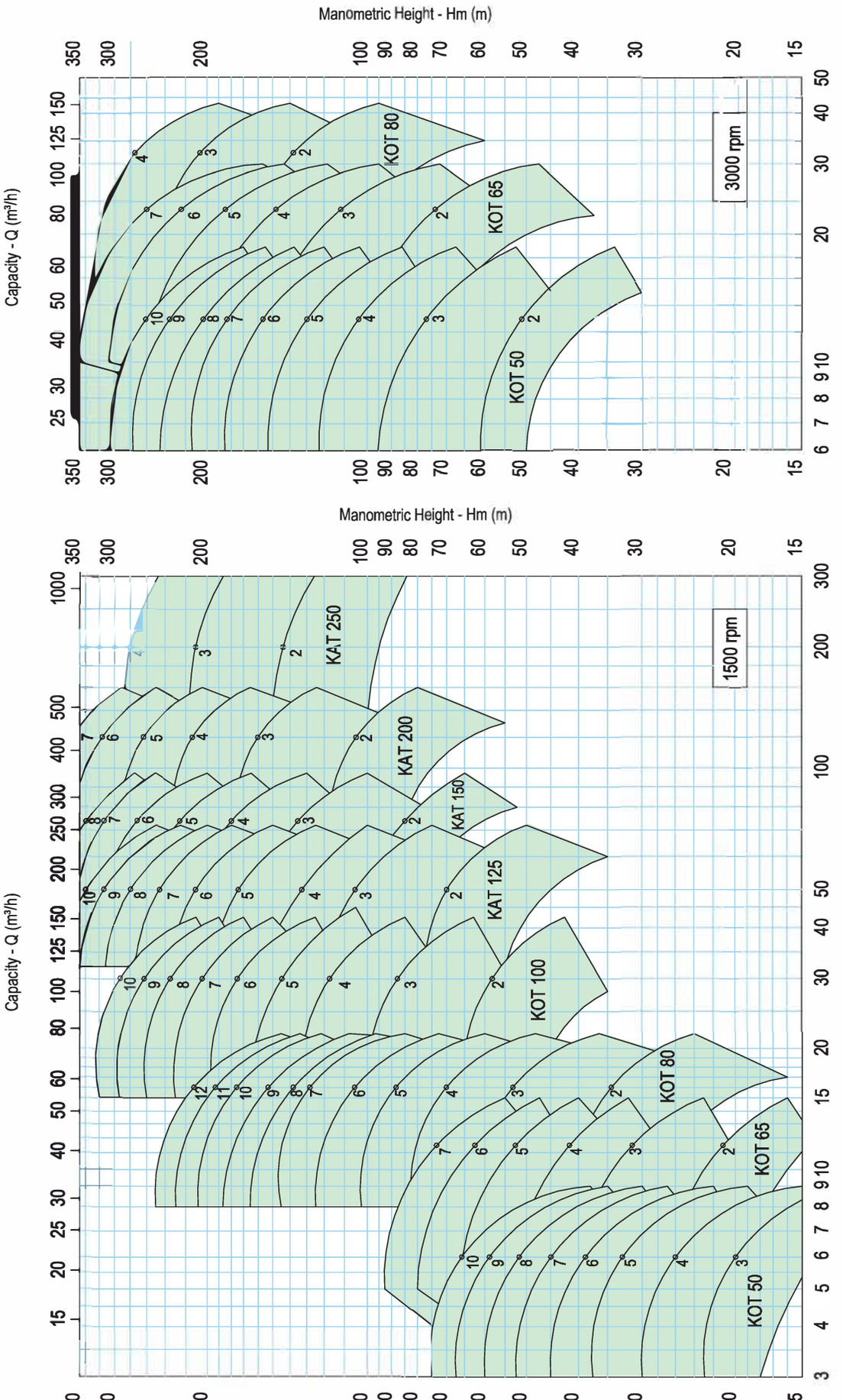


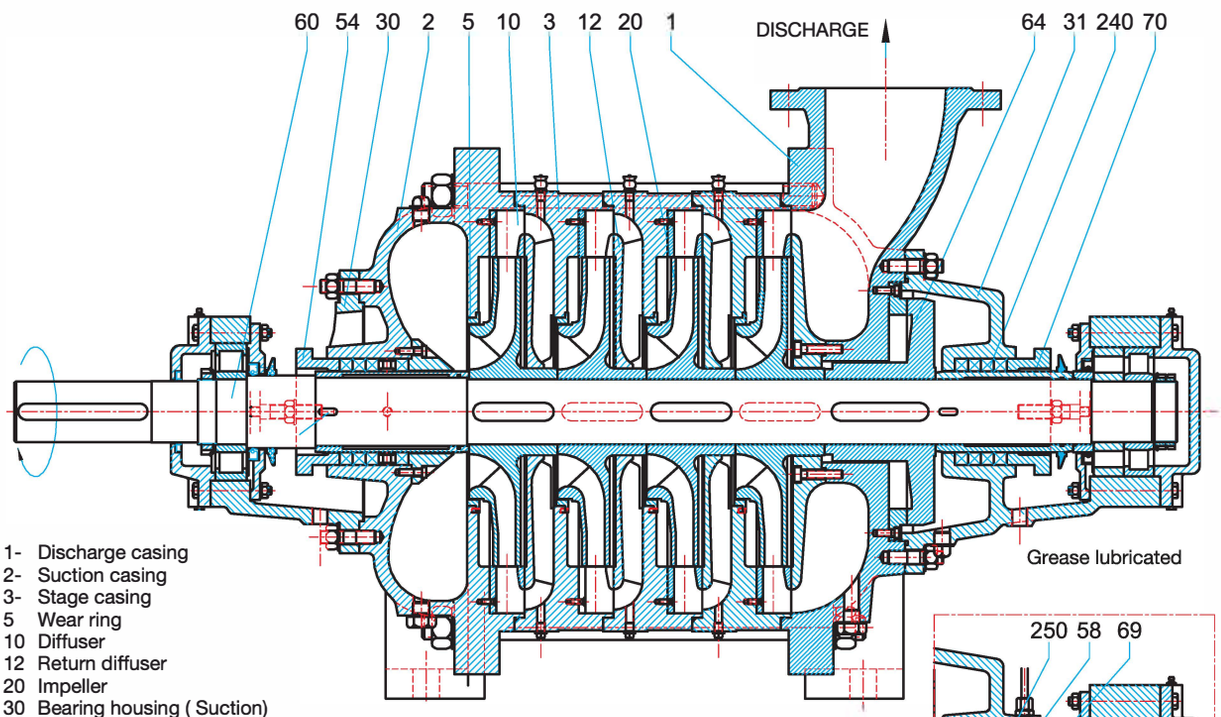
2) MULTI STAGE PUMP WITH OPPOSITE IMPELLERS :

These pumps are for high discharge pressures. Axial thrust force is compensated by back to back fitted impellers. In this design there is no need for balance disc. In special applications they used for fluids with small solid particles content.

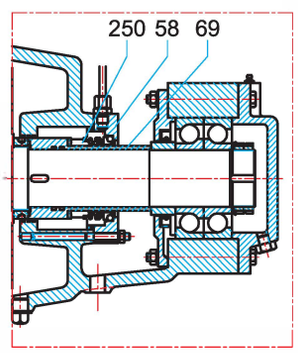




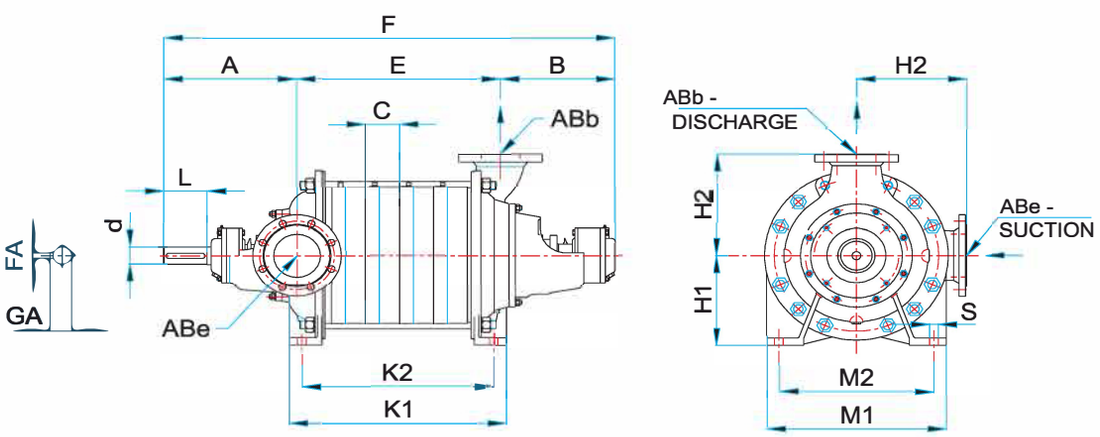

Manometric Height - Hm (m)
Capacity - Q (m³/h)
Capacity - Q (l/s)
3000 rpm
KOT 80
KOT 65
KOT 50
Manometric Height - Hm (m)
Capacity - Q (m³/h)
Capacity - Q (l/s)
1500 rpm
KAT 250
KAT 200
KAT 150
KAT 125
KOT 100
KOT 80
KOT 65
KOT 50



1- Discharge casing
2- Suction casing
3- Stage casing
5 Wear ring
10 Diffuser
12 Return diffuser
20 Impeller
30 Bearing housing (Suction)
31 Bearing housing (Discharge)
54 Gland
58 Mechanical seal cover
60 Shaft
64 Balance disc
69 Shaft sleeve (Mech. Seal),
70 Shaft sleeve (Soft packing),
240 Soft packing
250 Mechnical seal



Mechanic seal type



PUMP TYPE					FOR TWO STAGES				FOR EACH ADDITIONAL STAGES										WEIGHT	
	Abe	Abb	A	B	E	K1	K2	F	C	H1	H2	M1	M2	S	L	d	GA	FA	FOR TWO STAGES	FOR EACH ADDITIONAL STAGES
50	65	50	302	280	150	212	162	732	55	180	200	330	260	18	80	38	41	10	115	21
65	80	65	300	265	192	231	181	635	70	200	230	370	300	23	80	38	41	10	160	35
80	100	80	320	285	228	276	215	685	80	250	265	430	350	23	80	38	41	10	315	42
100	125	100	365	330	270	316	245	785	90	280	310	510	430	28	110	50	53.5	14	372	60
125	150	125	430	370	330	382	291	910	110	315	355	580	500	28	140	60	64	18	435	108
EFF125	150	125	541	475	341	435	335	1357	146	300	365	580	500	28	140	60	64	18	522	186
150	200	150	470	390	388	418	318	970	110	355	400	640	540	33	170	75	79.5	20	625	126
EFF150	200	150	600	520	367	410	350	1487	154	355	400	640	540	33	170	75	79.5	20	812	218
200	250	200	490	435	481	465	365	1060	135	425	480	720	620	33	170	85	90	22	820	180
EFF200	250	200	635	515	423	700	560	1573	170	425	500	780	680	33	170	85	90	22	1270	310
EFF250	300	250	690	602	548	750	610	1840	219	500	600	850	750	33	210	100	106	28	1895	390

NOTE:
1) Dimensions "mm". Masflo reserves right to make any changes in dimensions without giving prior notice.
2) Flanges conforming to DIN 2501 and TS EN 1092-2

TECHNICAL DETAILS:

KAT-UE / YKP-UE series pumps are medium and high pressure pumps with suction flange located in line with pump axis.

- Bearing and lubrication;
  Drive end: Heavy duty type Grease or oil lubricated bearings non drive end: Sleeve bearing lubricated by pumped fluid.
- Shaft Sealing: Gland packed or mechanical seal
- Axial thrust balancing:
  KAT-UE; by balance disc YKP-UE; by wear rings.
- Direction of rotation: Clock wise seen from drive end
- Variety of pump materials according to application and pumped fluids.

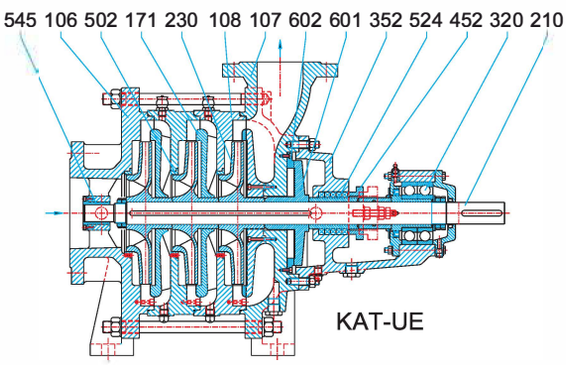
GENERAL:

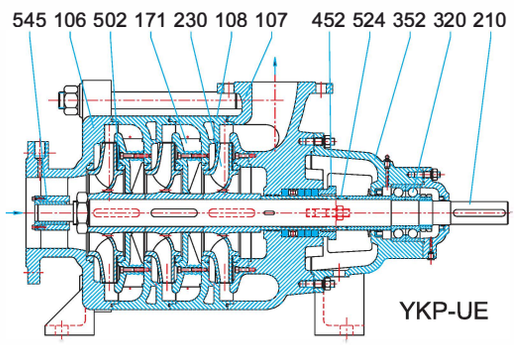
- Discharge flange diameters = DN 50 … DN 125
- Capacity = 200 m³/h (max.)
- Head = 300 m (max.)
- Medium temperature = -10°C ... + 110°C' (max.)

APPLICATIONS:

- Water supply,
- Booster system,
- Power plants,
- Fire fighting,
- High pressure demanding applications

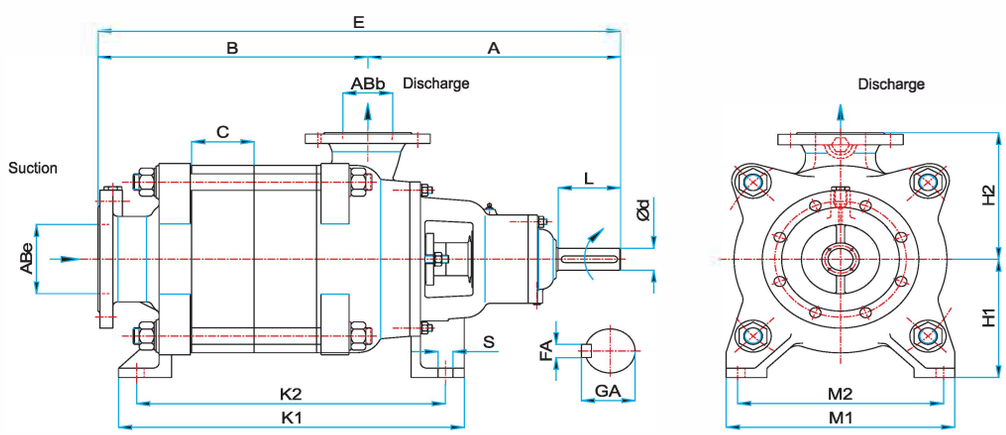
KAT-UE / YKP–UE SERIES PUMPS CROSS SECTIONAL DRAWING AND PARTS LIST





106- Suction casing
107- Discharge casing
108- Stage casing
171- Diffuser
210- Shaft
230- Impeller
320- Bearing
352- Bearing housing
452- Gland
502- Wear ring
524- Shaft sleeve
545- Sleeve bearing
601- Balance disc (rotating)
602- Balance disc (seat)

KAT-UE / YKP-UE SERIES PUMPS DIMENSIONS TABLE



PUMP TYPE	Abe	Abb	A	FOR TWO STAGES				FOR EACH ADDITIONAL STAGES	H1	H2	M1	M2	S	L	d	GA	FA	WEIGHT (kg)	
				B	E	K1	K2											FOR TWO STAGES	FOR EACH ADDITIONAL STAGES
KAT-UE 65	125	65	350	265	615	212	162	70	200	230	370	300	23	80	32	35	10	130	35
KAT-UE 80	125	80	390	285	675	231	181	80	250	265	430	350	23	80	38	41	10	250	42
KAT-UE 100	150	100	445	325	770	276	215	90	280	310	510	430	28	110	42	45	12	300	60
KAT-UE 125	200	125	485	395	880	316	245	110	315	355	580	500	28	110	55	59	16	350	108
YKP-UE 50	100	50	318	243	561	404	352	70	180	180	300	180	18	80	32	35	10	85	21
YKP-UE 65	125	65	337	287	624	356	301	80	180	200	305	270	20	80	38	41	10	110	35
YKP-UE 80	125	80	415	332	747	555	395	100	215	230	365	330	23	110	42	45	12	255	42

NOTE:
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